UNITED
NATIONS

E

Economic and Social Council

Distr.
GENERAL

E/C.10/1992/4
11 February 1992

ORIGINAL: ENGLISH

COMMISSION ON TRANSNATIONAL CORPORATIONS
Eighteenth session
23-24 January 1992 and 8-15 April 1992
Item 4 of the provisional agenda*

GENERAL DISCUSSION ON TRANSNATIONAL CORPORATIONS IN THE WORLD ECONOMY AND TRENDS IN FOREIGN DIRECT INVESTMENT IN DEVELOPING COUNTRIES

Transnational corporations and economic growth through technology

Report of the Secretary-General

SUMMARY

A substantial body of empirical evidence from both developed and developing countries convincingly demonstrates that technology is a key determinant of growth. Indeed, in recent decades, technology has assumed greater importance than before in influencing growth. Transnational corporations develop the bulk of technologies, mostly in their home countries or other host developed countries. Therefore, in so far as technology drives growth, developing countries have to acquire technologies from transnational corporations from developed countries.

The analysis in the present report shows that foreign affiliates have made significant direct contributions to technological change and growth in host developing countries through increase in research and development expenditures, higher factor productivity and change in the composition of manufactured output and exports in favour of research-and-development intensive products. However, the evidence on spillover benefits arising from

* E/C.10/1992/1/Add.1.

92-06317 2956h (E) 040392 170392

/...

an integration with domestic economies, stimulation of local research and development, or technological alliances with local enterprises is mixed. Such benefits seem to depend on the host countries' own technological competence, level of human resources development and entrepreneurial capacity. In the light of these findings, the present report draws some policy implications concerning the choice between foreign direct investment and non-equity forms of technology transfer, performance requirements, terms and conditions of technology transfer, human resources development and the need for a holistic approach to policy formulation.

CONTENTS

	Paragraphs	Page
INTRODUCTION	1 - 2	4
I. TRANSNATIONAL CORPORATIONS AND ECONOMIC GROWTH	3 - 7	4
II. TRANSNATIONAL CORPORATIONS, TECHNOLOGY AND GROWTH	8 - 52	5
A. Technology as a determinant of growth	8 - 11	5
Linkage between technology and growth	8 - 11	5
B. Transnational corporations and technology development	12 - 19	6
1. Transnational corporations and technology development: an overview	13 - 15	7
2. The internationalization of technological development and transnational corporations	16 - 19	9
C. Transnational corporations and the transfer of technology to developing countries	20 - 52	10
1. Transnational corporations and the supply of capital goods	22 - 24	10
2. Technology transfer through foreign direct investment	25 - 44	11
3. Transnational corporations and technology transfer through non-equity forms	45 - 50	16
4. Strategic alliances and technology transfer	51 - 52	18
III. TOWARDS AN ASSESSMENT	53 - 60	20
IV. SOME POLICY IMPLICATIONS	61 - 67	22

INTRODUCTION

1. In resolution 1991/55, section I, adopted on the recommendation of the Commission on Transnational Corporations at its seventeenth session, 1/ the Economic and Social Council, inter alia, requested the Secretary-General to prepare for the eighteenth session of the Commission a consolidated report analysing the latest trends in foreign direct investment in the world economy, in particular its impact on developing countries. The present report is in response to that request.

2. The Commission has before it the report of the Secretary-General on recent trends in foreign direct investment (E/C.10/1992/3) which examines trends in foreign direct investment flows to developing countries. The Commission also has before it the report of the Secretary-General dealing with major new elements in the international economy (E/C.10/1992/5) which shows that remarkable changes in the structure of international economic relationships and policy paradigms have created conditions that place foreign direct investment and, more generally, transnational corporations in a position to play a central role in economic development. Taking these reports into account, the present report focuses on the linkage between technology and growth and, more specifically, the impact of transnational corporations on that linkage.

I. TRANSNATIONAL CORPORATIONS AND ECONOMIC GROWTH

3. Economic growth is a complex process that is an outcome of the interrelationship among many factors; some of these are economic, while others are political and social. A consensus is now emerging that environmental protection is also a necessary component of sustainable economic growth. Although the relationship between the physical environment and the magnitude and quality of growth is only beginning to be understood, any attempt to describe and analyse economic growth needs to take into account impact on the environment and the implications of that impact for the sustainability of a country's growth path.

4. Economic growth is driven by a number of forces. One major force is investment that augments and improves the productivity of a country's resources, physical as well as human. Trade can promote growth by allowing countries to exploit their existing comparative advantages and develop new ones, encouraging a fuller and more efficient utilization of domestic resources and enabling countries to reap the benefits of economies of specialization and participation in the international division of labour. Finally, growth can be driven by innovation and technological change, which not only improve the productivity of existing activities but also create comparative advantages in new ones. Thus, the elements underlying the growth process include investment, trade, technology and human resource development.

5. Transnational corporations are often thought of as responding to economic growth as they are induced, for a variety of reasons, to invest in expanding markets. However, as explained in other reports before the Commission, transnational corporations are emerging as increasingly important actors in determining the pace of growth, both directly and indirectly. Since investment is a major determinant of economic growth, foreign direct investment could promote growth by augmenting the existing capital stock. In addition, compared with domestic investors, foreign investors, by virtue of their possession of certain unique advantages, such as technology and access to marketing networks, may have a greater impact on the growth of host countries.

6. However, the indirect effects of foreign investment on host economies may also be significant, even though they are far more difficult to measure. Through its linkages with trade, technology, human resources and the environment, foreign direct investment may affect growth by impacting the host countries' trade performance, transferring technologies, employing and improving the quality of human resources and affecting the environment.

7. The above discussion shows that transnational corporations affect growth through several channels. A comprehensive analysis of the impact of transnational corporations on growth through these various channels is not feasible within the scope of a single report and will therefore be undertaken in the forthcoming study of the United Nations Centre on Transnational Corporations entitled World Investment Report, 1992 (ST/CTC/130), which provides the statistical basis for the present report. The present report limits itself to an evaluation of the role of transnational corporations in growth through the development and transfer of technology and a brief discussion of policy implications for developing countries.

II. TRANSNATIONAL CORPORATIONS, TECHNOLOGY AND GROWTH

A. Technology as a determinant of growth

Linkage between technology and growth

8. The concepts of technology and technological change encompass many dimensions. In some cases, technological progress involves process innovation, implying the finding of new ways to produce existing goods and services, often involving less use of resources; in other cases, such progress involves product innovation, implying the introduction of new products or improvement of quality. Technology comprises more than machinery and other forms of hardware embodied in physical goods: it can be considered "the stock of knowledge (technical or management)" 2/ used in production and marketing. Part of this knowledge is embodied in machines, but much of it is embodied in human skills, management methods, organizational structures and work routines. Technology, therefore, takes different forms: hardware such as machinery and equipment, software such as blueprints and process specifications, and the services of technicians and professionals for such

contributions as quality improvements, management and marketing know-how and process and product design. With the emergence of information technology as the central element in the production of many goods and services, the software and service components of technology are becoming increasingly important in the international economy.

9. The pervasiveness of the concept of technology, as indicated above, raises several problems in relating technology to growth. There is no single measure of the level of technology nor of the rate of technological change: it is not easy to separate the independent contribution of technology from other factors of production, particularly capital and labour, in which technology often becomes embodied. 3/ The impact of technology on growth depends on complex interactions among technological change, the structure of incentives confronting enterprises to apply, adapt and innovate upon available technologies, and institutional arrangements regarding, among other things, the flow of information and the functioning of markets. 4/

10. Despite the aforementioned problems, there is a consensus among analysts on the importance of technology as a determinant of growth. Technology is considered to promote growth in several ways. First, advancements in technology enable a country to obtain a greater output from any given combination of inputs. This means that the productivity of factors of production is enhanced by technology. Second, technology can promote growth through the production of new products (including qualitatively superior ones) with higher value added and greater income elasticity. Third (a point related to the above though deserving special mention), technology can foster growth through improved export performance which often requires a shift in the composition of exports from primary commodities to manufactures (and within manufactures to more technology-intensive products).

11. In recent decades, technology appears to have assumed an even greater importance for growth. For example, it has been noted that from about the mid-1970s per capita use of such commodity materials as energy, steel, copper and cement has been declining or levelling off, while per capita world gross domestic product (GDP) has been continuing its upward trend. The difference between the growth in the use of materials and the growth of GDP can be largely attributed to growth in the use of such knowledge-intensive new technologies as electronics, computers and those based on new materials. 5/ Consistent with this assertion, data show a generally declining trend in the intensity of raw materials per unit of GDP in developed market economy countries. 6/

B. Transnational corporations and technology development

12. It has been mentioned before that technology is linked to growth by permitting production, from a given amount of resources, of a greater amount or of new output. This requires new technological development which often involves research and development efforts. Results of research and development are in turn often reflected in patents. The present section

deals, therefore, with the role of transnational corporations in technology development as indicated by research and development and patents.

1. Transnational corporations and technology development: an overview

13. In recent years, a notable shift has occurred in the perception of the process of technology development. The conventional view - that scientific innovations and discoveries were largely achieved in academic institutions and research laboratories and that once these innovations and discoveries were in place, firms sought to commercialize them - is no longer appropriate. With the emergence of information-based technologies, the increasing globalization of enterprises and the growing competition in the international market-place, science and technology have become more and more linked. It is being increasingly recognized that a large part of technological development occurs because of actions taken by enterprises. 7/ In consequence, transnational corporations devote substantial resources to research and development, in addition to having a variety of institutional arrangements with universities, research institutions and other enterprises.

14. The proportion of sales spent by major companies on research and development far exceeds total national expenditure (for the same purpose) as a proportion of GDP. Furthermore, research and development expenditures of those companies constitute a significant share of total national expenditures. (Most of them are transnational corporations.) Most major transnational corporations, recognizing the key importance of technologies, have undertaken extensive research programmes. Such transnational corporations as IBM, General Electric, Hitachi, General Motors and Siemens have allocated funds amounting to billions of dollars annually for research and development (see table 1).

15. Research and development expenditures reflect the resources devoted to technological development. They are therefore an input indicator. Results of research and development often find expression in patents which can be viewed as an output indicator of technological development. Here again, data on patents registered in the United States of America clearly show the dominant role of corporations. Foreign-owned corporations together with those of United States origin account for over three fourths of patents registered in the United States; the share of foreign-owned corporations appears to have increased from about the mid-1980s and is now larger than that of domestic firms. Overall, the development of technologies appears to be increasingly internalized within transnational corporations.

Table 1. Research and development expenditure by top 20 transnational corporations, 1990

(Millions of dollars)

Transnational corporation	Research and development expenditure
Non-United States corporations	
Siemens	4 132
Hitachi	3 011
Matsushita Electric Industrial	2 423
Philips Electronics	2 411
Alcatel Alsthom	2 237
Fujitsu	2 097
Toshiba	1 864
Nippon Telegraph & Telephone	1 739
NEC	1 728
Bayer	1 699
United States corporations	
General Motors	5 342
IBM	4 914
Ford Motor	3 558
AT&T	2 433
Digital Equipment	1 614
General Electric	1 479
Du Pont	1 428
Hewlett-Packard	1 367
Eastman Kodak	1 329
Dow Chemical	1 136

Source: Robert Buderi, "A tighter focus for R&D", Business Week (1991 bonus issue, "The Quality Imperative", December 1991), pp. 170-172.

2. The internationalization of technological development and transnational corporations

16. Historically, transnational corporations undertook technological development mostly in their home countries. Foreign affiliates generally undertook modifications of and adaptations to innovations emanating mainly from the research and development establishments of their parent firms in home countries. This is still the predominant pattern. In recent times, however, there has been a marked growth in the internationalization of research and development. As transnational corporations become progressively more global and acquire a world orientation for their input, products and markets, a number of them are establishing an integrated system for research and development, with overseas laboratories playing a significant role. The increasing importance of economies of scope, shorter product cycles and rapid obsolescence, all of which require closer interaction with customers, has necessitated such an internationalization. In some cases, internationalization has been motivated by the desire to take advantage of scarce scientific and technical personnel with respect to which particular host countries possess a comparative advantage. At the same time, the process has been facilitated by the development of transnational computer communication networks and on-line systems that permit smooth flow of data and information among remote sites and, indeed, on-line conduct of research and development. 8/

17. No comprehensive data exist on the geographical distribution of research and development efforts of transnational corporations by country of ownership; however, the sketchy evidence available from limited survey data lends support to a growing internationalization. In the case of United States transnational corporations, the proportion of research and development expenditure accounted for by foreign affiliates increased from 7 per cent in 1966 to 10 per cent in 1989. 9/ Swedish transnational corporations have reached a considerably higher degree of internationalization of their research and development expenditures, and that trend is continuing: some 23 per cent of research and development expenditures by 20 Swedish transnational corporations were undertaken abroad in 1987 compared with 21 per cent of such expenditures by the same firms in 1980. 10/ In the case of transnational corporations from Germany, it has been noted that the growth of research and development employment abroad has risen much faster than the growth of total employment abroad. In a survey of 33 firms, it was found that 18 per cent of their total research and development employees in 1989 were employed in affiliates abroad. 11/ In contrast, a survey of 11 large transnational corporations from Germany at the end of the 1970s had revealed that 15 per cent of their research and development personnel were employed abroad. 12/ Data on patents generally also indicate a rising importance of research and development in foreign locations.

18. In sum, transnational corporations account for the bulk of research and development expenditures in their home countries, which are in turn the global leaders in technological development. A small but increasing share of these expenditures is being shifted to host countries, albeit primarily to developed ones.

19. Obviously, technology development is the prerequisite for the improved factor productivity and product innovations that, in turn, fuel growth. By virtue of their dominance in technological development, transnational corporations play a major role in the growth process; and this role is likely to become of greater importance in the future because of the increasing importance of technology as a determinant of growth.

C. Transnational corporations and the transfer of technology to developing countries

20. The preceding section has demonstrated the importance of transnational corporations in the development of technology at the global level. The focus of analysis in the present section is on their role in technology transfer to developing countries. The rationale is that since technology development by transnational corporations takes place mostly in their home countries or in other host developed countries (as demonstrated in the preceding section), access to technologies for developing countries is largely a matter of acquiring those technologies from transnational corporations in developed countries in order to accelerate growth. In this context, it should be noted that only 2 per cent of total research and development expenditures of 11 German transnational corporations surveyed at the end of the 1970s occurred in developing countries. 13/ In the case of United States transnational corporations, 5 per cent of foreign research and development expenditures occurred in developing countries in 1982, and this proportion declined to 4 per cent in 1989. 14/

21. The principal sources of technology acquisition are scientific and technical publications (typically widely accessible at low cost), trade (through the import of machinery and equipment), foreign direct investment (both through wholly-owned foreign affiliates and joint ventures) and non-equity links with transnational corporations through such mechanisms as patents, licences, technical assistance agreements and other contractual arrangements, as well as strategic alliances. Transnational corporations play a major role in all these modes of transferring technology, particularly in trade, foreign direct investment and non-equity links.

1. Transnational corporations and the supply of capital goods

22. The import of capital goods is a prime determinant of the productive capacities of developing countries. During the decade of the 1980s, developing countries in Africa recorded a significant decline in the absolute value of capital goods imports, those in Latin America and the Caribbean achieved only a marginal increase and those in Asia and the Pacific raised their imports by nearly three fourths. The import of capital goods is undoubtedly a significant explanatory variable in the differential growth performance of these groups of countries.

23. The key issue in the present context is the role of transnational corporations in capital goods imports. The non-availability of data does not permit a disaggregation of imports of capital goods from transnational corporations as compared with imports of such goods from other entities. However, indirect evidence suggests a major role for transnational corporations in the supply of capital goods. For example, in 1988 at least 80 per cent of United States foreign trade was undertaken by transnational corporations, including parent companies in the United States, foreign affiliates of United States transnational corporations and United States affiliates of foreign transnational corporations. 15/ It is not unrealistic to assume that the proportion of capital goods imports by developing countries from United States transnational corporations is at least equal to, if not higher than, 80 per cent.

24. It should be noted that a large part of capital goods imports takes place as arm's-length transactions between importing countries and transnational corporations. These imports thus represent an unpackaged form of technology transfer - technology being embodied in capital goods - but the choice of technology in such cases rests primarily with the importing firms. Consequently, technology's impact on growth in specific situations will largely depend on the ability of the host countries' enterprises to make the right choices in the light of available alternatives and on their capacity to utilize imported capital goods effectively.

2. Technology transfer through foreign direct investment

25. A transnational corporation normally undertakes foreign direct investment when it possesses certain technological or other economic advantages over its competitors and finds that it is in its own best interest to exploit those advantages internally from a foreign location. 16/ Technology forms an important part of a transnational corporation's competitive advantage, and many firms choose to service their foreign markets through foreign direct investment, not only to exploit that advantage but also to retain company control over their technology. Hence, foreign direct investment may be the only way for many developing countries to gain access to certain key technologies.

26. Foreign direct investment can promote technological change in developing countries in a number of ways. Direct impact may occur through its contribution to higher factor productivity, changes in product and export composition, research and development undertaken by foreign affiliates, introduction of improved management practices, and employment and training. Indirect impact occurs through collaboration with local research and development institutions, technology transfer to local downstream and upstream producers, effect of the presence of foreign affiliates on competition and on the efficiency of local producers, and turnover of trained personnel.

(a) Direct effects

(i) Transnational corporations and factor productivity

27. An important contribution of technology to growth is through increased factor productivity. An evaluation of the contribution of transnational corporations to this process would require highly disaggregated data on the use of factors of production and value added, differentiated by ownership in different industries. Such data are not readily available.

28. However, there are case-studies that provide some evidence on relative efficiencies in the use of factors of production by foreign affiliates and domestic enterprises. For example, an analysis of 282 pairs of foreign and domestic firms of similar size drawn from 80 manufacturing industries in Brazil concluded that foreign firms had a significantly higher ratio of value added to output. 17/ In a study on Thailand it was found that foreign firms had higher average productivity of both capital and labour in the manufacturing sector compared with domestic firms and that that higher productivity was due to the higher efficiency of foreign firms as measured by a technology coefficient derived from production function estimations. 18/ Similarly, in another study, on the Republic of Korea, it was observed that the marginal product of both capital and labour was higher in foreign firms compared with domestic firms, but that the differential was much greater for capital than for labour. 19/

29. All these studies therefore support the view that foreign firms can contribute to growth through the provision of technologies that make more efficient use of capital and labour.

(ii) Transnational corporations and product composition

30. It has been noted earlier that one of the ways in which technology promotes growth is through the introduction of new products or qualitatively superior old products. Transnational corporations can play a role in this process. One way of assessing that role is to examine the role of transnational corporations in the production of relatively more research-intensive products. For United States transnational corporations, the expansion of the share of sales of high- and medium-research-intensive industries occurred primarily in Asia and the Pacific. In that region, United States affiliates also had the largest increase of research and development expenditure as a percentage of sales, as noted earlier. For Latin America, there has been much slower growth in sales of high- and medium-research-intensive industries; in Africa, there has been a decline. For Japanese transnational corporations, the picture is similar as far as Africa is concerned. Once again, there has been an increase in the share of sales of high- and medium-research-intensive industries in manufacturing sales in Asia and the Pacific as well as in Latin America, with a slightly more pronounced growth in the latter region in terms of the share of manufacturing sales.

31. The creation of production facilities by transnational corporations in high- and medium-research-intensive industries can imply technology transfer not merely through a changing product composition, but also through training of host country personnel in new technical skills, introduction of new management methods and new ways of organizing the production process. However, the impact of foreign direct investment on the transfer of skills from host country personnel not only depends on the degree of complexity of the technology employed but is also a function of the methods used for transferring skills, the quality of in-house training programmes, the promotion policy for nationals through exposure to progressively higher levels of responsibility and the provision of off-the-job training.

(iii) Transnational corporations and export composition

32. The technological content of exports can be an important determinant of growth performance. It is well known that research-and-development-intensive exports generally have higher income elasticities; therefore, the growth of these exports is more sustainable over the longer run. Besides, a rising share of such exports also carries the implication that the country concerned is in a position to exploit a dynamic comparative advantage (manifested in the growth of internationally competitive research-and-development-intensive industries), rather than rely exclusively on a static comparative advantage based on natural resources endowment or low labour cost. The role of transnational corporations in the export of research-and-development-intensive products therefore deserves scrutiny.

33. Data show that, in the case of Japanese affiliates, the share of research-and-development-intensive exports in total manufactured exports increased between 1982 and 1989 in Latin America and Asia, but declined in Africa (where there has also been an absolute decline of research-and-development-intensive exports). In the case of United States affiliates, their share of research-and-development-intensive exports increased somewhat in Latin America, declined slightly in Asia (though the share was still much higher than in Latin America) and remained very small in Africa. On the whole, affiliates have significantly increased research-and-development-intensive exports.

34. However, it should be noted that the performance of transnational corporations in this respect was not necessarily better than that of local enterprises. In particular, local enterprises in Asia clearly outperformed foreign affiliates. Total research-and-development-intensive exports from this region in 1989 were more than four times those recorded in 1982; 20/ but the increase in research-and-development-intensive exports by both United States and Japanese affiliates over the same period, though significant, did not reach a similar level.

(iv) Research and development by affiliates

35. It was noted earlier that an overwhelming proportion of the foreign research and development of transnational corporations is located in developed countries. This does not necessarily imply that such research and development is insignificant from a host country perspective. In countries such as India, the Republic of Korea and Singapore, the share of aggregate research and development expenditure attributable to foreign firms exceeded 15 per cent in the 1970s. 21/ Moreover, there is some evidence that foreign affiliates may be devoting more of their resources to research and development than before. There has been a noticeable increase in research and development expenditures as a proportion of sales of majority-owned foreign affiliates of United States transnational corporations in a number of developing countries, albeit with some noticeable regional differences. Research and development expenditure by United States affiliates as a percentage of sales increased fourfold between 1982 and 1989 in Asia and the Pacific, while stagnating in Latin America and remaining insignificant for the developing countries in Africa.

36. The location of research and development activities in developing countries can be explained by locational advantages and corporate strategies of transnational corporations. The decisions of corporations to locate research and development activities in certain host countries are very much dependent on such factors as the availability of research and development facilities and trained scientific and engineering personnel. Generally, countries with high research and development expenditures are also the countries in which United States affiliates have a high proportion of such expenditures compared with sales.

37. Very little is known of the type of research undertaken by foreign affiliates of transnational corporations. The research and development activities that take place within foreign affiliates are most likely to be typically confined to adapting the parent company's technology to local conditions. The effect of transnational corporations on deeper indigenous research and innovation capabilities (know-why) in developing countries is less evident. Since transnational corporations can import all their know-why and need only perform adaptive research in host countries, local firms may well conduct more research (as opposed to development) than foreign affiliates.

38. It may also be that a strong presence of transnational corporations can inhibit the development of an indigenous technological base beyond adaptive research. 22/ When transnational corporations penetrate a host country market, indigenous firms may be forced to cut back on research or narrow their field of specialization as they are confronted with declining market shares caused by competition with transnational corporations possessing much greater technological capacities. On the other hand, foreign competition could also induce domestic firms producing similar products to undertake research and development that would otherwise not take place in order to improve their competitive advantage. In this case, foreign direct investment could advance local innovatory capacity in areas in which the host country and its firms are strongest and have a competitive market structure. In the case of those

greenfield investments with no competition with local industry, there is no displacement of local enterprises, and foreign direct investment will most likely lead to a net increase in a host country's innovatory capacity even through adaptive research. 23/

(b) Indirect effects

39. Foreign direct investment can promote growth through several indirect mechanisms of technology transfer. For example, backward linkages to local firms through subcontracting the supply of parts, components and services create additional demand for intermediate products. A supplier firm in a developing country that is in a subcontracting relationship with a foreign subsidiary can receive technical assistance to improve product quality or the production process or to undertake new product development. When upgrading the technological level of supplier industries, foreign direct investment often increases the local value added and generates growth. The presence of foreign affiliates can increase competition and thereby force domestic enterprises to improve productive efficiency which is growth-enhancing.

40. There is some evidence that transnational corporations may be increasing their use of input from local resources. Local procurement by Japanese affiliates showed increasing levels for all industries from 1981 to 1988, especially in Asia. In 1988, Japanese affiliates procured more than 40 per cent of their input locally in Asia and 30 per cent in Latin America. Procurement levels were also high for such medium- and high-research-and-development-intensive industries as chemicals, general machinery, electric machinery and transport equipment. Through comparison of the local procurement levels for these industries, it has been found that such levels are generally higher for the newly industrializing economies than for other Asian countries, particularly in more technology-intensive industries. This finding indicates that existing local technological capabilities influence the extent of procurement.

41. Some case-studies also show that affiliates of transnational corporations have made extensive use of supplier linkages in host countries and impart considerable training and technical and financial assistance to their local suppliers. For example, a recent survey of 63 large foreign affiliates operating in Mexico's manufacturing sector 24/ found an extensive use of local subcontracting: almost two thirds of the foreign affiliates (37) had subcontracted locally. Of these 37 firms, nearly one third had subcontracted more than 25 per cent of their total production value. This outcome had been the result of a combination of performance requirements, the existence of a capable supplier network and industry-specific corporate strategies. The survey also found that the local subcontracting of inputs in Mexico by affiliates of transnational corporations had been motivated to a large extent by efficiency considerations which had assumed a greater role in the calculus oftransnational corporations as the country shifted from an import-substitution regime to an export-oriented regime with a liberalized trade policy. The survey further revealed that almost all of the foreign affiliates that had subcontracted locally imparted some kind of training to their

national subcontractors: 87 per cent had provided training in quality control, 68 per cent had given some kind of technical assistance and 22 per cent had offered financial assistance to their subcontractors.

42. In Indonesia, however, it seems that affiliates of transnational corporations have used local inputs primarily because of government pressure. 25/ In response, most foreign affiliates have preferred to manufacture in house and subcontract only a few insignificant and non-essential items. Consequently, the technical, managerial and financial linkages between transnational corporations and the subcontractors have generally been weak. Accordingly, the technology spin-offs through subcontracting in Indonesia have been minimal. To a significant extent, this is due to the absence of competitive domestic supplier industries.

43. As to the "spillover" impact of transnational corporations on the technological capacity and productive efficiency of indigenous enterprises, several studies on developed countries provide mixed evidence. 26/ The same is true for developing countries. A recent study on Mexico showed that the rate of productivity growth of local firms and their ability to reach the productivity standards of transnational corporations were positively related to the degree of foreign ownership of an industry. 27/ This was interpreted as implying that Mexican firms had been forced by the competition from foreign affiliates to increase productivity by investing in human capital and new technology. However, the study could not exclude the possibility that the competitive pressure from foreign affiliates had simply forced out inefficient local firms, thus improving the average productivity performance of Mexican firms. In contrast, a study on Morocco did not provide any evidence that the presence of foreign firms had resulted in increased productivity of domestically owned firms. 28/ Although foreign firms had higher levels of productivity, domestic firms showed faster productivity growth. However, these findings could not be attributed to dynamic externalities from foreign direct investment.

44. In some cases, transnational corporations stimulate technology development by local research and development institutions. In India, for example, one transnational corporation very recently signed a letter of intent with a government-funded telecommunications research and development facility, the Centre for the Development of Telematics, to use switches designed by the Centre in a new open-architecture cellular system. In addition, the transnational corporation will sponsor research at nine leading engineering colleges. 29/

3. Transnational corporations and technology transfer through non-equity forms

45. Apart from wholly- or majority-owned foreign direct investment (usually known as internalized forms of transfer), transnational corporations also transfer technologies through a variety of externalized (non-equity) forms. These include minority joint ventures, licensing, management and marketing contracts and international subcontracting. However, data on such technology

transactions between developing countries and transnational corporations are sketchy and difficult to interpret. Few developed countries disaggregate their technology receipts by country, type of transaction (for example, licensing or management contract) or relationship between receiving and paying enterprise (affiliate or unrelated enterprise). Similar comments also apply to developing country data on technology payments. Hence, it is a formidable task to assess the role of transnational corporations in technology transfer through such forms and harder still to assess the impact of those forms on growth.

46. An earlier study by the United Nations Centre on Transnational Corporations concluded that during the 1970s and up until the mid-1980s, the incidence of externalized forms of technology transfer seemed to have increased. 30/ Data on United States transnational corporations suggest a weak corroboration of that trend. However, attention should be drawn to the fact that technology receipts from unaffiliated enterprises in developing countries account for a very small proportion of total receipts.

47. Host country data tell a similar story. For example, in the Republic of Korea the share of payments for foreign licensing and technology contracts in total technology-transfer transactions (defined as foreign direct investment inflows plus payments for foreign licensing and technical consultancy plus capital goods imports) increased from 1.2 per cent in 1972-1976 to 1.6 per cent in 1982-1986. 31/ In Thailand, technology payments (comprising payments for royalty, trade marks and technical and management fees) increased from a range of 0.08-0.10 per cent of GDP during the period 1972-1976 to 0.19-0.20 per cent during the period 1984-1987. 32/

48. Several points need to be considered to put this pattern into perspective. The first concerns its future trend. It is well known that many factors - such as the age and sophistication of a technology, industry characteristics and corporate strategies within particular industries, as well as the level of a host country's entrepreneurial, technological and human resources development - affect the choice of particular transnational corporations regarding externalized technology transfer. However, this form of transfer may be even less favoured in the future than in the past. For one thing, recent developments in information technologies tend to increase the internalization advantages of transnational corporations. These developments facilitate, and cheapen the cost of, intrafirm communication, coordination and control. High costs of development and rapid obsolescence are likely to reinforce efforts of transnational corporations to secure a quicker payback through internalization. Furthermore, the internalization of research and development expenditure noted earlier and the trend towards strategic alliances among transnational corporations in respect of the development and transfer of technologies limit the plurality of sources in the technology market. The deceleration in the growth of external resource inflows through official development assistance and private flows other than foreign direct investment would limit the ability of developing countries to acquire unpackaged technology. Finally, recent policy changes in developing countries in favour of foreign direct investment tend to reduce the cost of

internalization. These factors are likely to increase the importance of foreign direct investment as an instrument of technology transfer.

49. The second observation relates to the interrelationship between foreign direct investment and externalized technology transfer. With the exceptions of India and the Republic of Korea, the bulk of technology receipts of United States transnational corporations from unaffiliated enterprises in developing countries originate precisely in economies (such as those of Argentina, Brazil, Hong Kong, Indonesia, Malaysia, Mexico, the Philippines, Singapore, Taiwan Province of China and Venezuela) that are also among the largest host countries of foreign direct investment. Thus, familiarity with a country's enterprises and their capability gained through foreign direct investment may be a precondition for (or, at least, a facilitator of) externalized forms of technology transfer. In the case of India and the Republic of Korea, a combination of restrictive policies towards foreign direct investment, availability of a substantial pool of well-trained human resources and large market size encouraged externalized forms of technology transfer despite comparatively less foreign direct investment.

50. Third, the growth impact of technologies transferred through externalized forms depends, as in the case of capital goods imports, largely on the capacity of domestic entrepreneurs to make the right selection, use the acquired technologies effectively and adapt and innovate continuously. Also relevant to the growth-promoting impact of technologies acquired through externalized forms is the capacity to negotiate reasonable terms. There are many imperfections in technology markets that give rise to a considerable scope for bargaining. If technology purchasers are not equipped with adequate knowledge concerning the availability of alternative sources of the same or similar technologies and their costs, transactions are very likely to be settled in terms more favourable to the sellers. In the case of Thailand, for example, it has been observed that there was no correlation between licensing fees and the complexity of technologies; fees were paid for technologies no longer covered by patents; and technical fees paid for similar technologies in the pharmaceutical industry ranged from 0.4 per cent to 20 per cent of sales. Even though many of the buyers were aware that these terms were disadvantageous, they did not have adequate information on alternative sources. 33/

4. Strategic alliances and technology transfer

51. High risks and rising research and development costs (especially in the area of new technologies) and the rapid obsolescence of new products have forced many transnational corporations to form technology-related strategic alliances to share development costs, acquire new technologies and make better use of scarce qualified personnel. 34/ The substantial number of strategic alliances now in existence is a relatively new phenomenon, and it is very difficult to obtain precise data on their frequency and purpose. However, there are indications of an emerging trend towards a very high proportion of agreements involving development of and access to technologies. 35/ IBM's

alliances with several other corporations for the purpose of developing its personal computer are an example: the Lotus Corporation provided the application software and Microsoft wrote the operating system for a micro-processor that was produced by Intel. 36/ IBM (traditionally reluctant to conclude alliances) has now created alliances with more than 40 partners all around the world (with Siemens of Germany, among others), pooling technology and customer bases in the telecommunications and related fields. As a response to competition from IBM, the Japanese computer firm Fujitsu has formed alliances with Texas Instruments, Siemens and Hitachi. Table 2 illustrates the growth of technology alliances among transnational corporations, often undertaken for the joint development of new generations of products and for the setting of industry standards. The alliances are centred on the Triad of Europe, Japan and the United States of America and are most frequent in information technology.

Table 2. Number of new technology alliances among transnational corporations from Europe, Japan and the United States of America by industry, 1980-1984 and 1985-1989

Industry	1980-1984	1985-1989
Information technology	348	445
Biotechnology	108	198
New materials	63	115
Automotive	26	79
Chemicals	80	103

Source: Maastricht Economic Research Institute on Innovation and Technology, as quoted in The New York Times, 1 January 1992.

52. Technological alliances can be viewed as a way of providing collective protection to technological advances among a few partners. The increasing incidence of such alliances combined with the current pace and cost of technological development makes it more difficult for developing countries to acquire technology through traditional non-equity arrangements. Many alliances also involve common actions for setting international standards that increase the barriers (including those for new products from developing countries) to entry into the international market. However, some developing countries, particularly the newly industrializing ones, have the potential and

capability to become partners of technology alliances. In the information technology industry, for example, Taiwan Province of China has made extensive use of alliances with transnational corporations to acquire technological capabilities. A typical example of such efforts has been in the area of computer software, where the Government set up two software engineering firms in cooperation with IBM. 37/ Taiwan Province of China has provided good-quality engineers at a relatively low cost while IBM has provided experience in software research and development. Similarly, the Sony group is to transfer advanced technology to the electronics industry in Taiwan Province of China. (Sony has announced that it has entered into alliances with 130 electronics companies from Taiwan Province of China and is working with a "technology development centre" to create a production base for export to Japan and Sony's affiliated companies worldwide.) 38/ Similarly, several firms in the automobile industry in the Republic of Korea have entered into alliances with transnational corporations from the Triad. Examples of those alliances include that of Hyundai with Mitsubishi and Chrysler; that of Daewoo with General Motors, Suzuki and Isuzu; and that of Kia with Ford and Mazda. 39/

III. TOWARDS AN ASSESSMENT

53. The present report has shown that technology is a key determinant of growth. Technology promotes growth by increasing factor productivity, enabling the introduction of new products with greater long-run income elasticities and bringing about shifts in export composition in favour of research-intensive exports with higher growth potential. In recent decades, the importance of technology as a determinant of growth appears to be increasing.

54. Transnational corporations are responsible for the bulk of technological developments. Therefore, in so far as growth is driven by technology, the growth and development of developing countries are closely bound to a variety of equity and non-equity links with transnational corporations that permit access to technologies.

55. One channel of access to technology is through the import of capital goods, in the supply of which transnational corporations play a dominant role. While the choice of technologies acquired through this mechanism largely rests with domestic importers, transnational corporations also contribute to growth through this mechanism, albeit indirectly.

56. Foreign affiliates can promote technological change in developing countries - and thereby growth - through their own research and development. During the last decade, data for United States majority-owned affiliates in developing countries show that the shares of research and development expenditures in sales, though small, has increased. The net impact on growth arising from increased research and development expenditure by foreign affiliates also depends on what effects such an increase has on indigenous firms' research and development capabilities. In general, it appears that the effect is likely to be more beneficial where domestic firms are capable of

undertaking research and development to meet the challenge of competition from foreign affiliates. Foreign affiliates generally appear to exhibit higher factor productivity which contributes to growth. They also appear to have contributed to the growth of developing countries through increasing the share of research-and-development-intensive products in their total sales and their manufactured exports over the past decade. However, domestic enterprises in Asia outperformed transnational corporations in respect of research-and-development-intensive manufactured exports.

57. Foreign affiliates have also contributed to the growth of developing countries indirectly by increasing their purchase of local inputs; but the level and nature of such purchases is conditioned by the level of the host country's industrial development. In some cases, foreign affiliates have also stimulated research and development by local institutions through collaborative arrangements. Sparse information on these arrangements does not allow any conclusion about the overall effect of such stimulation of growth.

58. In some cases, a growth stimulus has also been generated through significant technology transfer by transnational corporations via such non-equity channels as licensing. The countries that have benefited most from such transfers appear typically to be the largest host countries. Sometimes, those transfers involved unfavourable terms that implied an avoidable drain on domestic resources.

59. Recently, there has been an upsurge of technological alliances among transnational corporations, particularly in respect of new technologies. That upsurge raises concern about the possibilities of reduced competition in the international technology market and restrained access to developing countries. These possibilities could limit the potential for contributing to growth through the dissemination of new technologies.

60. In sum, transnational corporations are making a significant direct contribution to the growth and technological development of host developing countries through the research and development expenditure of affiliates, changes in their product and export composition and higher factor productivity. As to the indirect stimuli to growth through non-equity forms of technology transfer, integration with domestic economies, stimulation of local research and development and technological alliances with developing country enterprises, the evidence is rather mixed. The beneficial impact of these mechanisms appears to be largely contingent on, inter alia, the host country's domestic capacity to generate and adapt acquired technologies, the competitive ability of domestic enterprises and the availability of well-trained human resources. It may be concluded, therefore, that as regards indirect stimuli to growth through a wider dissemination of technologies, transnational corporations can strengthen a country's technological base where the above-mentioned conditions already exist but are unlikely to create those conditions.

IV. SOME POLICY IMPLICATIONS

61. Several policy implications emerge from the findings in the present report. For one, research and development by foreign affiliates in developing countries appears to be located mainly in those countries that already possess some domestic technological competence and a reasonable supply of trained scientific and technical personnel. Policy measures directed towards inducing transnational corporations to undertake greater research and development in host economies should therefore be conceived in the broader context of a country's indigenous technological development policy, encompassing, inter alia, the creation of an adequate human resources base for technological activities.

62. As noted earlier, foreign direct investment has made a notable contribution to technology transfer, and thereby to growth, through changes in the composition of products and exports in favour of greater technological intensity. Here again, performance variations of transnational corporations appear to be related to host economies' indigenous technological capacities; hence, the conclusion noted above with regard to inducing transnational corporations to undertake greater research and development in host economies is applicable here as well. In addition, it should be pointed out that while foreign direct investment may be a useful means of quickly benefiting from the results of new innovation abroad through the transfer of production, it does not necessarily imply a dissemination of technological knowledge to domestic producers. This raises the question of the choice between foreign direct investment and externalized forms as mode of transfer. There have been contrasting experiences in respect of this choice, even though national growth performance has been quite comparable. Singapore can easily be cited as a case involving large reliance on foreign direct investment, while that of the Republic of Korea represents a greater reliance on externalized forms, which was facilitated by both the creation of an ample entrepreneurial skill base and governmental assistance to local enterprises by providing information and support in bargaining. Any country seeking to pursue a similar strategy would be well advised to evaluate carefully the level of its human resources development, the entrepreneurial capacity of domestic producers and the ability of Governments to provide appropriate information and guidance to them. It should also be pointed out that restrictive policies towards foreign direct investment may severely limit access to sophisticated technology, as the experience of India amply demonstrates. Furthermore, even the Republic of Korea has chosen to liberalize its foreign direct investment policy progressively since the early 1980s as the country needed more modern technologies to sustain international competitiveness. In 1991, India also announced a significant departure from its past policies in the direction of permitting easier access to foreign direct investment.

63. In the context of the varying performance of transnational corporations in respect of linkages with the domestic economy, the question of performance requirements assumes relevance. Quite obviously, for example, if the objective is to promote efficiency in the use of resources in order to promote faster growth, the imposition of a local content requirement in the absence of

an internationally competitive supplier industry would be counterproductive. However, there may be a case to be made for a highly selective use of such a requirement in the event of a high probability that local producers would be able to quickly achieve international standards with assured demand for their products. 40/

64. Even where transnational corporations are willing to transfer technologies in externalized forms, the terms of transfer may sometimes leave something to be desired, as the experience of Thailand (cited earlier) demonstrates. Excessive payments imply a drain on domestic resources and thus may inhibit growth. Technology purchasers should therefore be provided with adequate information regarding available alternatives to enable them to make informed choices. An arbitrary imposition of limits on royalty payments or licence fees is likely to limit access to desired technologies.

65. A correlation appears to exist between foreign direct investment and access to externalized forms of transfer in most cases. Hence, highly restrictive policies towards foreign direct investment may also limit the scope for acquiring technology through other channels, unless the country concerned has a strong bargaining position because of its large market size or the capacity to develop technologies independent of an association with transnational corporations. The link between foreign direct investment and externalized forms also raises a formidable technology barrier for the vast majority of developing countries which attract little foreign direct investment due to their structural constraints, no matter how liberal their national policies towards such investment.

66. The present report has also shown that there is a marked tendency among transnational corporations to hold on closely among themselves to new technologies through strategic alliances. There have been, at the same time, some instances of such alliances with developing country enterprises. Local enterprises therefore deserve to be encouraged to enter into these types of arrangements with transnational corporations from advanced countries wherever possible, in order to gain access to new technologies or to be able to apply them more widely in the interest of sustaining competitiveness and growth.

67. Finally, it should be emphasized that the growth-promoting impact of technologies acquired through foreign direct investment as well as through other forms of association with transnational corporations is ultimately dependent on the incentive structure faced by both foreign and domestic enterprises in acquiring, adapting, innovating upon and diffusing technologies. The incentive structure is conditioned by a host of public policies concerning, inter alia, physical infrastructure, human resources development, research and development, technology and foreign direct investment, competition, international trade, factor pricing, venture capital and subsidies. The formulation of such a holistic approach is no doubt immensely complex, but without that kind of approach the contribution of transnational corporations to growth through technology transfer will fall short of its potential.

Notes

1/ Official Records of the Economic and Social Council, 1991, Supplement No. 10 (E/1991/31), chap. I, sect. A, draft resolution II.

2/ Francois Chesnais, "Science, technology and competitiveness", STI Review, No. 1 (Autumn 1986), pp. 85-129.

3/ The Organisation for Economic Cooperation and Development (OECD) has published a major work dealing with these issues. See OECD, Technology and Productivity: The Challenge for Economic Policy (Paris, 1991).

4/ Sanjay Lall and George Kell, "Industrial development in developing countries and the role of government intervention", Banca Nazionale del Lavoro Quarterly Review, No. 178 (September 1991), pp. 271-292.

5/ William F. Miller, "Europe 1992: regionalism and globalism", The International Executive, vol. 33, No. 2 (September-October 1991), pp. 28-35).

6/ United Nations Conference on Trade and Development, "Impact of technological change in patterns of international trade" (TD/B(XXXV)/SC.I/CRP.2), March 1989, p. 4.

7/ Paul M. Romer, "Endogenous technological change", Journal of Political Economy, vol. 98, No. 5 (1990), pp. S-71-S-102.

8/ Jeremy Howells, "The location and organization of research and development: new horizons", Research Policy, vol. 19, No. 2 (1990), pp. 133-146.

9/ John H. Dunning, "Multinational enterprises and the globalization of innovatory capacity", Rutgers University GSM working paper No. 91-03 (January 1991) and United States Department of Commerce, U.S. Direct Investment Abroad: 1989 Benchmark Survey Preliminary Results (Washington, D.C., 1991), tables 76 and 91.

10/ Dunning, op. cit.

11/ Christoph Doerenbacher and Michael Wortmann, "The internationalization of corporate research and development", Intereconomics, vol. 26, No. 3 (May/June 1991), pp. 139-144.

12/ Quoted in Michael Wortmann, "Multinationals and the internationalization of R&D: new development in German companies", Research Policy, vol. 19, No. 2 (1990), pp. 175-183.

13/ Ibid.

14/ United States Department of Commerce, U.S. Direct Investment Abroad: 1982 Benchmark Survey (Washington, D.C., 1985), tables III.H.3 and III.E.1, and 1989 Benchmark Survey, op. cit., tables 40 and 76.

Notes (continued)

15/ World Investment Report, 1991 (United Nations publication, Sales No. E.91.II.A.12), p. 62.

16/ Jonn H. Dunning, Explaining International Production (London, Unwin Hyman, 1988), p. 10.

17/ Larry N. Wilmore, "The comparative performance of foreign and domestic firms in Brazil", World Development, vol. 14 (April 1986), pp. 489-502.

18/ Somsak Tambunlertchai and Eric D. Ramstetter, "Foreign firms in promoted industries and structural change in Thailand", in Direct Foreign Investment in Asia's Developing Economies and Structural Change in the Asia-Pacific Region, Eric D. Ramstetter, ed. (Boulder, Colorado, Westview Press, 1991), pp. 65-102.

19/ Chung H. Lee and Eric D. Ramstetter, "Direct investment and structural change in Korean manufacturing", in Direct Foreign Investment in Asia's Developing Economics and Structural Change in the Asia-Pacific Region, Eric D. Ramstetter, ed. (Boulder, Colorado, Westview Press, 1991), pp. 105-141.

20/ United Nations Centre on Transnational Corporations calculations, based on Statistical Office of the United Nations Secretariat, Monthly Bulletin of Statistics, various issues.

21/ John A. Dunning, "Multinational enterprises and the globalization of innovatory capacity", Rutgers University GSM working paper No. 91-03 (January 1991), p. 16.

22/ J. Cantwell, Technological Innovation and Multinational Corporations (London, Basil Blackwell, 1989), p. 178.

23/ John H. Dunning, "Multinational enterprises and the globalization of innovatory capacity", Rutgers University GSM working paper No. 91-03 (January 1991).

24/ Foreign Direct Investment and Industrial Restructuring in Mexico (United Nations publication, forthcoming).

25/ Hall Hill, Foreign Investment and Industrialization in Indonesia (New York, Oxford University Press, 1988).

26/ See, for example, Richard Caves, "Multinational firms, competition and productivity in host country markets", Economica, vol. 14, No. 162 (1974), pp. 176-183; and S. Globerman, "Foreign direct investment and 'spill-over' efficiency benefits in Canadian manufacturing industries", Canadian Journal of Economics, vol. 12, No. 1 (1980), pp. 24-52.

Notes (continued)

27/ Magnus Blomström and Edward N. Wolf, "Multinational corporations and productivity convergence in Mexico" (1989), mimeo.

28/ Mona Haddad and Ann Harrison, "Are there dynamic externalities from foreign direct investment? Evidence from Morocco", UNCTC Library on Transnational Corporations (London, Routledge, forthcoming).

29/ Business Asia, vol. XXIII, No. 46 (18 November 1991), p. 14.

30/ Transnational Corporations and Technology Transfer: Effects and Policy Issues (United Nations publication, Sales No. E.87.II.A.4), p. 14.

31/ Calculated from table 2 in Lim Su Kim, "Technological transformation in Korea and its implications for other developing countries", Development and South-South Cooperation, vol. IV, No. 7 (December 1988), pp. 19-29.

32/ World Bank, Industry and Energy Department, Technology Strategy and Policy for Industrial Competitiveness: A Case-Study of Thailand (Washington, D.C., April 1990), p. 16.

33/ Ibid.

34/ See Jonathan B. Tucker, "Partners and rivals: a model of international collaboration in advanced technology", International Organization, vol. 45, No. 1 (Winter 1991), pp. 83-120.

35/ See Strategic Partnerships: States, Firms and International Competition, Lynn Krieger Mytelka, ed. (London, Pinter Publishers, 1991), pp. 7-35.

36/ See Kenichi Ohmae, "The global logic of strategic alliances", Harvard Business Review, vol. 89 (March-April 1989), pp. 143-154.

37/ See Gee San, "Technology, investment and trade under economic globalization: the case of Taiwan", in Trade, Investment and Technology in the 1990s (Paris, OECD, 1991), pp. 57-97.

38/ See Financial Times, 20 November 1991.

39/ Asian Business, January 1991, p. 26.

40/ For a discussion of issues related to performance requirements, see The Impact of Trade-related Investment Measures on Trade and Development (United Nations publication, Sales No. E.91.II.A.19).

UNITED
NATIONS

E

Economic and Social Council

Distr.
GENERAL

E/C.10/1992/5
5 February 1992

ORIGINAL: ENGLISH

COMMISSION ON TRANSNATIONAL CORPORATIONS
Eighteenth session
23-24 January and 8-15 April 1992
Item 4 of the provisional agenda*

GENERAL DISCUSSION OF TRENDS CONCERNING TRANSNATIONAL CORPORATIONS IN THE WORLD ECONOMY AND TRENDS IN FOREIGN DIRECT INVESTMENT IN DEVELOPING COUNTRIES

Transnational corporations in the new world economy: issues and policy implications

Report of the Secretary-General

SUMMARY

The context in which developing countries grow is currently undergoing major changes; those changes are such that it is now possible to speak of a new world economy governing international economic relations. Key features of this changing environment are an expanded role of the private sector in economic development; the continued rapid pace of new technological developments and the central role of transnational corporations in organizing technological activity; the globalization of industries and firms; and the regionalization of economic activity around the three Triad members: the United States of America, Japan and the European Community. Transnational corporations are at the centre of these developments, and it is likely that they are significantly affecting patterns of world trade and technology transfer. As the integrating agents of these activities, transnational corporations are in a position to affect significantly the economic performance of host developing countries in the 1990s, both directly and indirectly.

---

* E/C.10/1992/1/Add.1.

92-05113 3052d (E) 280292

/...

050392

The above-mentioned developments raise a number of policy issues for developing countries, at both the domestic and international levels. Domestically, developing country Governments will face the challenge of encouraging economic growth in the context of globalization and regionalization; hence, their policies will increasingly need to take into account the policies of other countries and of transnational corporations. At the present time, however, no mechanism exists through which Governments systematically provide authoritative information to other Governments and interested parties about their foreign direct investment frameworks. Hence, there is a need for increased international transparency in the area of foreign direct investment policies, which would also facilitate the evaluation of those frameworks in order to maximize their effectiveness.

CONTENTS

	Paragraphs	Page
INTRODUCTION	1	4
I. TRANSNATIONAL CORPORATIONS AND THE NEW WORLD ECONOMY	2 - 24	4
A. New perceptions of transnational corporations in the 1990s	2 - 4	4
B. The new world economy	5 - 24	5
1. The shifting balance between State and market	5 - 7	5
2. Technology and the shrinking of economic space	8 - 14	6
3. The globalization of industries and firms	15 - 18	10
4. The regionalization of the world economy and the emergence of the Triad	19 - 23	11
5. Transnational corporations as integrating agents for development	24	14
II. POLICY IMPLICATIONS: INTERNATIONAL TRANSPARENCY OF INVESTMENT POLICIES	25 - 37	14
A. The rationale	25 - 29	14
B. The benefits of increased transparency of investment policies	30 - 34	16
C. Options for implementation	35 - 37	17
III. CONCLUSION	38 - 40	18

INTRODUCTION

1. At its seventeenth session, the Commission on Transnational Corporations requested the United Nations Centre on Transnational Corporations to prepare a report that would analyse trends in foreign direct investment in the world economy and their impact on developing countries, including the interrelationship between transnational corporations and other important variables affecting development. Other reports before the Commission analyse the importance of transnational corporations in the world economy (E/C.10/1992/3) and the role of transnational corporations in stimulating growth through the transfer of technology to developing countries (E/C.10/1992/4). Furthermore, an earlier study of the Centre examined the role of transnational corporations as integrating agents of trade, technology and financial flows. 1/ Its findings indicated that transnational corporations were becoming more important actors in the growth performance of host countries. The present report continues the analysis by examining trends that are shaping the world economy in general and the role of transnational corporations in those trends. The findings raise a number of new policy issues for host countries. Consequently, recommendations are made concerning international policy actions that address the challenges presented by the new world economy.

I. TRANSNATIONAL CORPORATIONS AND THE NEW WORLD ECONOMY

A. New perceptions of transnational corporations in the 1990s

2. In the 1990s, transnational corporations are playing a role of increasing size in the world economy and in the competitiveness of nations. This is due in part, to the rapid growth of foreign direct investment in the 1980s. During that period foreign direct investment, driven by a combination of macroeconomic and firm-level factors whose effect is likely to continue, if not accelerate, in the 1990s, averaged 30 per cent growth per year. At the same time, as discussed elsewhere, 2/ transnational corporations integrate within themselves the principal modes of international economic transactions, namely, investment flows, trade, technology transfer and financial flows. These findings point to the fact that transnational corporations have become a major factor in structuring international economic relations and are emerging as increasingly important actors in the development of both home and host countries.

3. However, the increasing importance of foreign direct investment in the world economy is an outcome not only of its growth in recent years. In addition, changing perceptions concerning foreign direct investment - particularly among developing countries but also among many developed ones - ensure that its impact is more significant, regardless of cyclical swings in its amount. Because of these changing perceptions, there has been a fundamental shift in policy-making in this area. The principal aim is no longer to control and contain the activities of transnational corporations, but rather to encourage foreign direct investment (including investment in

sectors previously closed to private, let alone foreign, ownership) in order to reap its benefits.

4. Several concurrent factors are behind this shift in attitudes vis-à-vis foreign direct investment. These factors, which are interrelated, operate on the international level, on the regional level and on the national level. On the international level, new and changing technologies and the globalization of several industries are changing the nature of production and the ways in which developing countries participate in the international division of labour. On the regional level, emerging trends point to a concentration of world economic activity in three main regions: Asia, North America and Western Europe, with growth and integration in those regions driven respectively by Japan, the United States and the European Community (the Triad members). On the national level, recent years have witnessed the opening up of most of the world to private enterprise and some form of market system, so that there are now few countries into which international capital may not flow. These factors, which are examined in the following section, are defining the shape of the new world economy in the 1990s, in which the context for development differs markedly from that of previous decades. Transnational corporations are playing a central role in these changes. An understanding of their contribution to economic development needs to take into account not only their quantitative and functional impacts, but also their importance as actors in the international economic system.

B. The new world economy

1. The shifting balance between State and market

5. The emergence of a new world economy means that the context in which developing countries grow is changing rapidly. One of the most salient features of this changing context is an expanded role for the private sector. One illustration of this trend was the increase, over the period 1986-1988, in private investment's share of gross domestic product in a number of developing countries from 10 to 12 per cent, compared with the slight decline in the share of public sector investment from 8 to 7.5 per cent. 3/. In conjunction with this trend towards an expanded private sector, countries that formerly adopted inward-looking development strategies are, for a variety of reasons, adopting outward oriented policies, for instance, by liberalizing regimes governing trade, foreign direct investment and foreign exchange and generally by emphasizing a more intensive participation in the global economic system. 4/ This shift has been encouraged in part by the example of high growth rates in several Asian developing countries, which have become models of apparently successful outward-oriented development in which market forces and extensive participation in the international economy play a crucial role (even while, in many cases, State policies remain interventionist). Another factor is the debt crisis of the 1980s, which substantially narrowed the margin for State-led development strategies and led to structural adjustment programmes in many countries which, in turn, encouraged a greater role for the private sector and the adoption of outward-oriented policies.

6. The shift towards a greater reliance on market forces has been most dramatic in Central and Eastern Europe, where the centrally planned economic system has literally collapsed. However, it has also been quite marked in Latin America; more recently, in Africa; and, to a certain extent, in China as well. Transnational corporations have been increasingly important in implementing these changes, their role reinforced by a continued low in commercial bank lending in the late 1980s/early 1990s. In Latin America, for instance, there have been widespread efforts to privatize large segments of the economy that were previously State-owned, and transnational corporations are playing an important role in this process. Overall, some 50 developing countries and all Central and Eastern European countries have active privatization programmes.

7. Liberalization, privatization and fiscal reform are all expressions of this fundamental shift in policy orientations in many parts of the world. Increased competition between firms and economic areas (and heightened concern about unfair competition), focused especially on the Triad, has been one of the consequences. In any event, this development has placed transnational corporations, as the leading international market actors, in the centre of economic development in a world where virtually all countries are now seeking to integrate themselves into the world economy.

2. Technology and the shrinking of economic space

8. While these changes are redefining the ideological and regulatory context of development, changes in the nature and uses of technology are also redefining the ways in which countries develop. Since the 1970s, economic growth has been increasingly associated with new technologies rather than with the use of natural resources, such as energy and minerals. This reflects the fact that production itself has become less materials-intensive and more skill-, knowledge- and technology-intensive. Furthermore, new communications technologies are rapidly shrinking the economic distance between countries and may be viewed as "the electronic highways of the informational age, equivalent to the role played by railway systems in the process of industrialization". 5/ New communications technologies are allowing for a far greater degree of economic internationalization than was previously possible. In this regard, it is interesting to note that the volume of international communications mirrors international economic relations and, indeed, current trends in foreign direct investment: the highest volume of international calls occurred between the United States and Canada, the United States and the United Kingdom of Great Britain and Northern Ireland, and the United States and Mexico, while the greatest growth in international telephone traffic was situated in the Pacific rim, fuelled by 23 per cent annual growth in outward calls from Japan versus 18 per cent from the United States. 6/. A recent study found that with the current installed capacity of fiber optic and satellite communications networks, international calling volumes have been doubling every three to five years, while the prices of such calls have been falling by about 10 per cent per year. 7/

9. In recent years, the technological capacity to process and send information has proceeded far more rapidly than the ability to adapt organizationally to the new possibilities that such technological capacity presents. For instance, the processing power of an integrated circuit doubles every 18 months, and the transmission capacity of light wave systems (based on fiber optics) is increasing even more rapidly, doubling every year. 8/ By the late 1990s, it may be possible to combine the computing of data with photonics, so that computers will be powered by light waves. Such developments could lead to a new generation of computers that would be far more powerful than those of today.

10. Although the economic impact of such changes are only beginning to be felt, there are already signs that new technologies, particularly information technologies, are leading to a fundamental change in the way goods are being produced and services delivered (and, indeed, in what goods and services) and in the organization of production, both within and between countries. In fact, elements of a new global production system seem to be emerging, characterized by greater integration, geographically decentralized organization and new production methods. Again, transnational corporations are at the centre of such developments, as far as the generation, application and transfer of these new technologies are concerned.

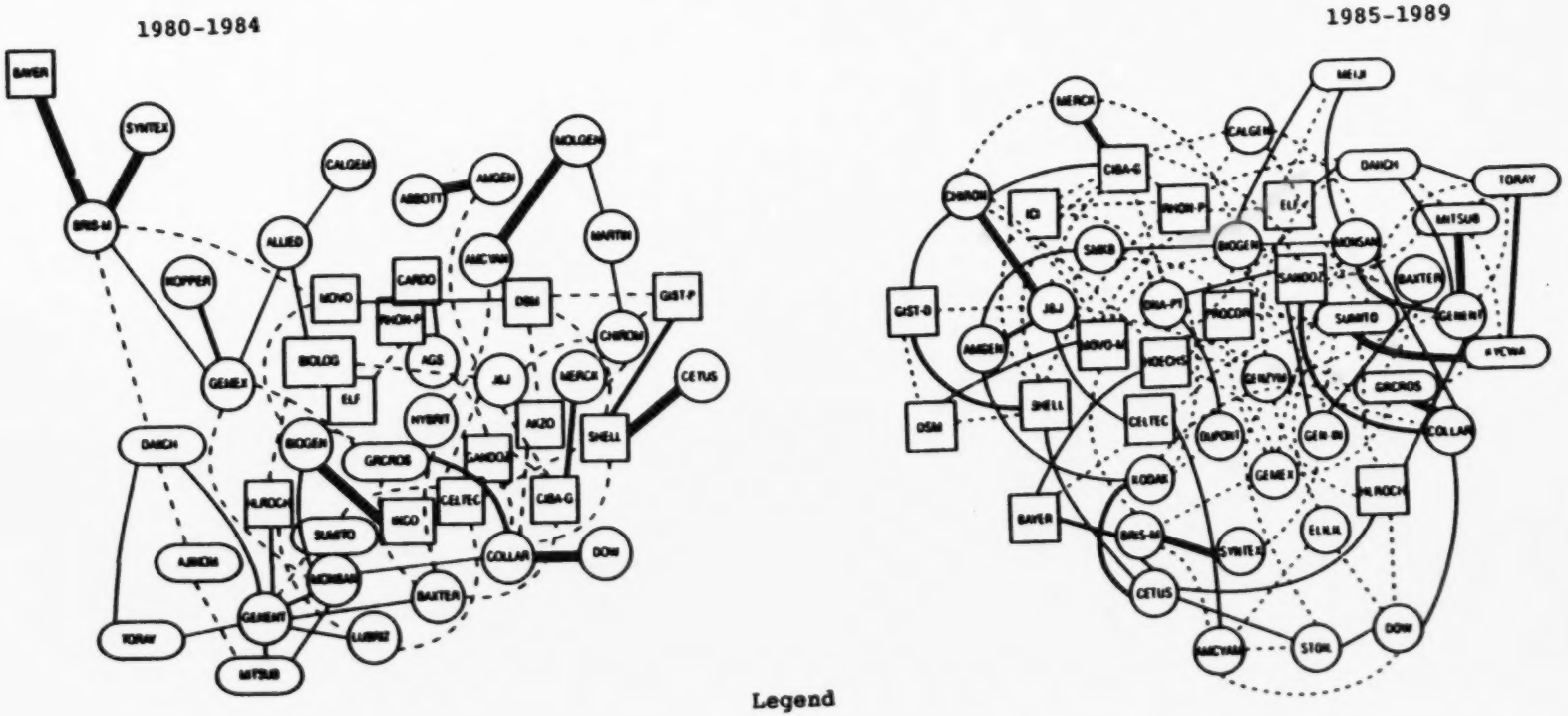
11. The relationship between transnational corporations and technological change is a dual one: transnational corporations are key actors in the development of technology; at the same time, they are greatly influenced by it. In fact, technology developments are a major factor behind the growing importance of transnational corporations and their increasingly global strategies, which are often motivated by the need to gain control over the development and use of new technologies. Such strategies imply that a rising share of the world's technology flows is being controlled by transnational corporations or transnational corporation networks and that transnational corporations are increasingly important vehicles for technology transfer to host countries (see document E/C.10/1992/4). This trend, combined with the ever-increasing pace of technological developments along with the rising costs associated with such developments, implies that the scope for countries - both developing and developed - to create a purely indigenous technological base may narrow. Instead, countries may need to rely more on inward and outward foreign direct investment in order to gain access to technologies that are critical to their competitiveness. This is accentuated by the fact that licensing may no longer be effective in acquiring many technologies, not only because obsolescence occurs more quickly than in the past, but also because effective use requires more training, both initial and ongoing, of human resources. To the extent that transnational corporations do not transfer technology to indigenous firms, the vulnerability of countries to the loss of technological competence may increase, if such competence is gained only through the presence of large firms over which countries have limited control and which may shift their activities elsewhere. Thus, while technological developments are offering new opportunities for developing countries with adequate infrastructure and human resources to absorb them, the mechanisms through which such technologies are transmitted are converging on transnational corporations.

12. The question of access to technology via transnational corporations is further complicated by the new organizational structures that are emerging in the international economy as firms seek to access and obtain the maximum benefit from new technological developments. Increasingly, interfirm networks, whereby firms in a network share the information as well as the costs associated with innovation, are being employed by competing firms in a given industry. Strategic alliances, joint ventures and research consortia are all expressions of such interfirm networks. These networks are emerging for a variety of reasons, key among them being the need to reduce uncertainty regarding which technology will become the future industry standard; the desire to share complementary strengths in research and development and pool the costs associated with such activity; and the wish to share benefits once they materialize. Such multifirm networks lower the costs of accessing and utilizing new technology for member firms, while the costs for non-members may be raised considerably. In addition, powerful transnational computer communications networks controlled by single firms or groups of firms are becoming more important, and some transnational corporations are setting up central data-processing centres for an entire continent, with high-speed links connecting them to national offices. 9/. In some industries, for example, banking, insurance, hotels and airlines, such electronic networks are becoming the basis for international transactions and access to them is therefore a crucial matter.

13. During the 1980s, strategic partnering in high-technology industries accelerated greatly, as illustrated by the biotechnology industry (see figure). Similar developments can be documented for two other new technologies, information technology and new materials. 10/ A number of changes in the nature of competition in high-technology industries - such as the shortening of product life cycles and the increasing complexity and intersectoral nature of new technologies - were behind the acceleration of interfirm networks in the 1980s. Furthermore, advances in information and communications technologies that were shrinking economic distance made such networks more feasible. While it is difficult to measure the extent of these phenomena, all evidence indicates that both technology-pooling organizational networks and electronic data networks are taking place almost exclusively in the Triad.

14. From the point of view of developing countries, the emergence of inter- and intrafirm networks raises two important questions. The first is whether, in general, such networks are raising entry barriers to the process of technology-driven growth. Secondly, it may be asked whether, given the existence of networks that are controlled by transnational corporations and remain concentrated in developed countries, rising foreign direct investment flows are indeed associated with improved access to key technologies.

The structure of strategic partnering in the biotechnology industry in the 1980s



Source: J. Hagedoorn and J. Schakenraad, "Leading companies and the structure of strategic alliances in core technologies", MERIT research memorandum 90-001 (Maastricht, Netherlands, 1990).

3. The globalization of industries and firms

15. Partly because of greater competition associated with the expanded role for the private sector and partly because of the impact of new technologies, many firms and entire industries have become global in nature. In many cases, deregulation and macroeconomic shifts have facilitated this trend towards globalization. The world financial industry in particular, but also the automobile and consumer electronics industries, are examples of globalized industries, in which transnational corporations integrate, coordinate and control value-adding activities in numerous countries, both developed and developing. One of the key implications of globalization is that the nation State is diminishing in importance as the key arena for economic activity.

16. The globalization of industry means, to a large extent, that the way countries grow and develop comparative advantage is changing considerably. As a result of globalization, countries may become specialized locations for one segment of an industry (engines in automobiles, semiconductors in electronics, data entry in banking, for instance) and, in the process, become significant players in that industry. In some cases, countries in a given region develop concurrently a comparative advantage in an industry, with growing intraregional intra-industry trade as a result. Sources of comparative advantage - capital, know-how, experience and technology, for instance - are thus transferred across borders in greater quantities as more and more countries participate jointly in various stages of the value-adding process of an industry. In other words, globalization means that the boundaries that define an industry are increasingly being drawn across countries rather than within them. The implication of this trend is that strategies to develop independent indigenous industries may, in many instances, no longer be appropriate for developing a dynamic comparative advantage and participation in global industries may be a necessary ingredient for the development of a competitive economy.

17. The intra-industry, cross-border flows of goods, services and technology that characterize a global industry are, to a large extent, controlled by transnational corporations. Indeed, transnational corporations are the driving force behind the globalization of industries, although there is a distinction to be made between global industries and global firms. Such firms control a growing share not only of world investment and output, but also of world trade and technology flows. Among other things, the existence of global firms means that competition in certain industries is occurring less between countries than between firms that compete simultaneously in a number of countries. It may now be possible to describe some corporations as stateless, in the sense that their management, organizational structure and value-adding activities are no longer governed by any single country.

18. Given these developments, the globalization strategies of transnational corporations are likely to change the ways in which foreign direct investment affects the growth of host developing countries. Until recently, most foreign direct investment in developing countries could be characterized as either resource-seeking, market-seeking (particularly if policies favoured protected

local industry) or export-oriented (mainly to take advantage of abundant cheap labour). In each case, the contribution of foreign direct investment to growth was limited by the comparative advantage of the host country in the particular activity concerned; if wages rose, for instance, "footloose industries" might be shifted to lower-cost export platforms. Globalization strategies, however, are blurring the boundaries among these types of investment, particularly those of the last two: investments in developing countries by global corporations are increasingly both market-seeking and export-oriented. Furthermore, cheap labour is not the primary consideration for global corporations which mainly operate in high-technology industries; consequently, rising wages do not necessarily lessen the locational advantages of host countries. A number of developing countries that began with the primary advantage of cheap labour have succeeded in upgrading the technological competence of their workforce with the result that they continue to attract transnational corporations even after their relative wage advantage has deteriorated. In other words, the globalization of firms, in which value-adding activities are dispersed geographically and integrated within a single firm, is leading to a situation whereas transnational corporations upgrade their overseas affiliates from simple assembly-type operations to high-quality, high value-added manufacturing sites that are integrated into a network of overseas affiliates, foreign direct investment may become a driver of dynamic comparative advantage. Foreign direct investment, then, may become an integral part of the growth process for countries included in the globalization strategies of transnational corporations.

4. The regionalization of the world economy and the emergence of the Triad

19. The regionalization of the world economy is, somewhat paradoxically, a corollary to increasing globalization; it is also reshaping the context in which developing countries grow. Globalization has not as yet produced a world in which nations interact with others equally, regardless of their location; rather, economic activity, even as it becomes more dispersed, is being increasingly concentrated in three major regions: Asia, North America and Europe. The three Triad members - Japan, the United States and the European Community - represent respectively the core economies in each of these regions and act as principal sources of technology, capital and trade for surrounding countries. One expression of this trend has been the emergence of clusters of developing countries around each pole of the Triad. Within such clusters countries in a given are dominated by investment from a Triad member in that region. 11/ The strategies of transnational corporations and changes at the policy level to foster regional economic integration are behind this shift to a tripolar structure. Regionalization implies that, in the 1990s developing countries are likely to forge their primary economic linkages with the Triad member in their region and that a strategy of opening up to the world at large may prove more difficult (as illustrated by the case of Mexico, which recently shifted from a policy of attracting foreign direct investment from many sources to one centred mainly on the United States). 12/ Regionalization also implies that developing

countries that are not linked to a Triad member may become increasingly marginalized and their growth prospects correspondingly constrained.

20. Transnational corporations are playing a much greater role in this phase of regionalization than in past periods (for instance, during early integration efforts in the European Community). In fact, moves towards regionalization on the policy level are in many cases driven by the regional strategies of transnational corporations from the Triad. Regional integration brought about through foreign direct investment is likely to be deeper than integration brought about through trade, in that the former implies integration of national production systems and hence of the regulatory regimes that govern those systems. Integration through foreign direct investment may thus lead to a certain degree of integration of national policies, for instance in the areas of labour, monetary policy and the environment. One issue in this current phase of regional integration is the degree to which home and host country policies will converge and how regional policy regimes will be constructed to reflect the interests of both home and host countries.

21. In this regard, it is instructive to look at the strategies that transnational corporations are employing to bring about the current phase of regionalization in the world economy. At all three poles of the Triad, but particularly in Asia, many transnational corporations are implementing regional core network strategies, in whose framework they establish affiliates within a cluster of countries (both developed and developing) in a given region, with each affiliate performing a discrete value-adding activity. 13/ The output of each affiliate is then integrated by the parent firm with the output of other affiliates in the region, hence forming a regional network typically centred on a Triad member. In such strategies, intrafirm trade among affiliates plays a central role, as the firm combines the output of one affiliate with the output of another (sometimes in a third location, sometimes in all locations simultaneously) in order to produce the final product. Such networks are an outcome of, as well as a factor behind, the increasing regionalization of the world economy and the clustering effect described above, in which a number of developing countries in a region are dominated by foreign direct investment from a single Triad member. Current trends in national policies, technology and international competition are likely to facilitate the continued growth of regional core networks.

22. It is also likely that the regional networks of transnational corporations are increasingly shaping patterns of world trade. An analysis of such patterns, shown in the table, reveals that, in the 1980s intraregional trade outpaced world trade to a large extent. The strategies of transnational corporations to build regionally integrated, independently sustainable networks of overseas affiliates at each of the three poles of the Triad are likely to be an important factor driving this pattern, along with regional integration programmes in the European Community and North America. Important examples that lend support to this hypothesis are the regional networks that have emerged in Europe and that are emerging in Asia; the latter are, at present, the most advanced networks in the Triad involving developing countries.

Share of intraregional trade in total trade, 1980-1990

(Percentage)

Region	1980	1990
European Community	56	61
North America a/	27	35
Asia b/	37	41
Developing Asia c/	24	33

Source: United Nations, Monthly Bulletin of Statistics, vol. XLV, No. 6 (June 1991).

a/ Comprising the United States of America and Canada.

b/ Including Japan.

c/ Excluding Japan.

23. Asian growth in recent years has been so rapid as to have been dubbed an "economic miracle" and has certainly been one of the most remarkable developments experienced in the 1980s. As mentioned above, the Asian experience is now held up as a model for other developing countries to follow, with outward-oriented growth being the prime feature of this model. A look at Asian trade patterns reveals that much of this outward orientation is towards the region itself; in the latter half of the 1980s, intraregional trade (including Japan's) grew by 23 per cent a year and in 1990 accounted for 9 per cent of total world trade. Indeed, intraregional trade now accounts for a larger share of Asia's trade than trade with any other single region. 14/ Furthermore, growth in intra-Asian trade has occurred in the absence of a regional policy framework; in fact, it is only now that the Association of South-East Asian Nations (ASEAN) is, as an institution, ready to make substantive progress towards regional integration at the policy level. Rather than having been the result of policy measures to encourage trade between Asian countries, intraregional trade has largely been driven by foreign direct investment. Intraregional trade was initially driven by Japanese transnational corporations and is increasingly being driven by Asian developing country transnational corporations, which now invest as much in the region as those Japanese transnational corporations. To the extent that regional network strategies are implemented in other parts of the world - as indeed they are beginning to be in Mexico and Central and Eastern Europe, for instance - foreign direct investment will increasingly structure the trading relations within and between the major regions of the world economy.

5. Transnational corporations as integrating agents for development

24. Other reports before the Commission examined transnational corporations in the context of their importance in absolute terms in the world economy (E/C.10/1992/3) and in terms of their contribution to growth through technology transfers to developing countries (E/C.10/1992/4). The above discussion adds another dimension to the growing importance of transnational corporations, namely that of their critical connection to the main elements defining the new world economy: a greater role for private sector investment, both domestic and foreign; the development and transmission of new information and production technologies, often through transnational-corporation-controlled networks; participation in global industries; and the strengthening of regional economic ties centred on a Triad member. Together, these elements make transnational corporations key organizers of economic activity and markets, as well as wealth-creating agents that allocate globally a large proportion of the resources necessary for the process of economic growth, especially when that process takes place in an internationally competitive environment. The above observations point to a need for policies to deal with the growing role of transnational corporations in development in order to increase flows of foreign direct investment to developing countries, maximize the benefits of that investment and ensure a stable policy environment.

II. POLICY IMPLICATIONS: INTERNATIONAL TRANSPARENCY OF INVESTMENT POLICIES

A. The rationale

25. The preceding section raised a number of issues that present new policy challenges as well as opportunities for Governments in the area of foreign direct investment. Foreign direct investment policies can affect the overall level, sectoral composition and direction of capital flows and of the trade and technology flows associated with them, as well as the degree and type of international integration effected between countries. 15/ As a result, national foreign direct investment policies in one country can affect economic performance in other countries, especially given the growing importance of transnational corporations as integrating agents of trade, technology and financial flows. For instance, high local content requirements in one country may dissuade imports from another. Similarly, incentives to transnational corporations to export from a host country may affect the trade balances of that country's trading partners (by increasing their imports and/or reducing their exports). Home country policies to encourage outward foreign direct investment in particular regions or sectors will also influence the distribution and composition of foreign direct investment. Policy-making in the area of foreign direct investment thus has international, as well as national, implications.

26. In order to be effective, policy-making requires information about a wide variety of interrelationships that occur at both the national and international levels. In the context of increasing interdependence driven by

the activities of transnational corporations, both Governments and transnational corporations rarely have access to the information that would give them a complete understanding of the complex processes by which such integration is taking place. Hence they are often unable to properly evaluate the potential consequences of a given policy decision and its interrelationship with policies in other countries. Thus, improved access to information about international investment policies is critical to effective policy-making that promotes an efficient international system for Governments and transnational corporations alike.

27. A first step towards improving such information is to increase international transparency in the area of foreign direct investment policies. 16/ Currently, no international mechanism exists through which Governments make their foreign direct investment policies, laws and regulations readily available to each other and to foreign investors. In part, this lack reflects the fact that foreign direct investment is not governed by an international framework of rules that would necessitate international notification and reporting as a means of ensuring the adherence of the contracting parties to their agreements. Despite the absence of such a framework, however, there is still a need to increase international transparency in the area of foreign direct investment, with regard to both home and host countries. Such transparency would be basic to ensuring that all interested parties were fully informed about policy and regulatory frameworks in the area of foreign direct investment and could take these frameworks into account in their decision-making.

28. Currently, international transparency is required in the area of trade, where the contracting parties of the General Agreement on Tariffs and Trade are obliged to submit their relevant trade policies and any changes therein to the Secretariat on a regular basis. Other international organizations, such as the International Monetary Fund, the World Bank and the Organisation for Economic Cooperation and Development routinely collect information regarding policies in their relevant areas of responsibility; however, none of them provide a mechanism for all countries for international transparency in the area of foreign direct investment.

29. In this regard, a mechanism is therefore proposed through which Governments could systematically and periodically inform other Governments as well as other interested parties about their policies and regulatory frameworks relating to both inward and outward foreign direct investment. Countries could participate on a voluntary basis, although a large number of participating countries would be desirable in order to provide a comprehensive overview of prevailing policy frameworks. Policy instruments that could be subject to greater international transparency would include, at a minimum, those that bore directly upon the activities of transnational corporations, in particular, foreign direct investment policy statements, laws, regulations and administrative guidelines (including those relating to incentives and performance requirements); bilateral investment treaties; double taxation treaties; and instruments dealing with technology transfer and the repatriation of earnings. In addition, policies that significantly impacted

the locational decisions and activities of transnational corporations could also be made more transparent; these might include certain laws and regulations regarding employment, the environment and intellectual property rights. While transparency could not extend to coverage of contracts and agreements between Governments and transnational corporations (since most of them are not in the public domain), those contracts that had been published in the official gazettes could be included, at the discretion of a particular Government. In sum, it would be desirable to make countries' overall foreign direct investment regimes more transparent, including all policies that apply directly to transnational corporations.

B. The benefits of increased transparency of investment policies

30. Increasing international transparency in the area of investment policies carries a number of benefits for host and home countries and for transnational corporations. Increasingly, foreign direct investment issues are at the heart of international and bilateral policy discussions on issues such as trade and technology. The growth of Japanese foreign direct investment in the United States and Europe, for instance, is likely to influence any future discussions in the area of trade with Japan; similarly, European Community technology policy, which promotes joint research programmes, will increasingly have to consider the implications of the growing numbers of non-European transnational corporations active in high technology industries in the Community. Without being informed of the foreign direct investment policies of countries, the international community is likely to encounter increasing difficulties in constructing policies to promote a stable and efficient functioning of the international economic system. As outlined above, transparency would encourage efforts to create a more favourable environment for foreign direct investment flows and would also support multilateral efforts in related areas, such as trade and technology.

31. Perhaps the most important beneficiary of increased international transparency of foreign direct investment policies would be host countries themselves, particularly those with limited information-gathering resources. By disseminating information about the regulatory frameworks that govern the activities of transnational corporations, countries facilitate the decision-making processes of transnational corporations, especially those, of small or medium size, that have limited capacities to obtain relevant regulatory information. In the current environment of increased liberalization, many host countries are instituting policy regimes that are more favourable towards foreign direct investment than those in the past; in order for such policy shifts to have their desired effect, it is necessary for them to be made widely available in a systematic manner. Furthermore, by having ready access to information concerning home country policies, host countries may be able to tailor their inward foreign direct investment policies more effectively. As a result, countries may attract additional foreign direct investment, to the extent that such investment was previously not forthcoming due to limited information about the relevant regulatory

framework. Increased international transparency also relieves host countries of the need to convey legal information to foreign investors on a one-to-one basis. In addition to facilitating investment inflows, greater transparency of investment policies may also facilitate access to other international resources, such as credit and technical assistance.

32. Greater international transparency of foreign direct investment policies may also improve the benefits of foreign direct investment to host countries by improving their bargaining position vis-à-vis foreign investors. If information about the regulatory regime for foreign direct investment were easily available, it might be less likely that foreign investors could encourage competition among potential host countries for a given investment through the granting of ever more generous concessions. While competitive bidding for foreign direct investment would not be eliminated by increasing transparency - Governments and transnational corporations are free to negotiate and enter any agreement of their choice - such bidding would at least take place in a more open environment.

33. Increased transparency of investment laws would, from the perspective of transnational corporations, enable them to make better foreign direct investment decisions in an overall improved policy environment for their international activities. More specifically, increased transparency would improve the climate for foreign direct investment by providing transnational corporations - particularly small- and medium-sized ones and those from developing countries - with readily accessible, authoritative information about host countries, presented in a standardized format by a neutral party. Currently, there is no such mechanism available, and it is likely that incomplete information is, in some cases, resulting in an allocation of foreign direct investment that favours a limited number of countries.

34. Other important reasons why transparency improves the investment climate for transnational corporations is that it helps promote the stability of investment policies (countries are less likely to resort to frequent rule changes if such changes are consistently recorded) and may lessen the power of special interest groups to influence domestic policy. Both factors are important elements in facilitating an objective assessment by transnational corporations of host country regulatory frameworks.

C. Options for implementation

35. To increase the international transparency of regulatory frameworks for foreign direct investment, the Economic and Social Council, on the recommendation of the Commission on Transnational Corporations, could request all Governments to inform the United Nations Centre on Transnational Corporations of all their policies, laws, regulations and administrative guidelines that bear directly upon the activities of transnational corporations. The request for information could also be extended to such instruments as have a significant impact on the locational decisions and

activities of transnational corporations. Submission would be on a voluntary basis; however, every effort should be made to encourage all countries to participate in the process.

36. The Centre would compile the submissions in a standardized format, organized by reporting country and supplemented by information obtained from other sources. The presentation of the regulatory framework of each country would be sent by the Centre to the competent official authorities of that country for verification or, to facilitate the process, to one national contact point designated by the Government. The Centre could also send the text to other interested parties for comments; such parties could include other international organizations, Governments of other countries and private entities, for example, chambers of commerce.

37. After verification, the Centre would publish and disseminate widely the collected information in the form of an authoritative catalogue. The publication would contain, on a country basis, the names and sources of the policy statements, laws, regulations and administrative guidelines comprising the foreign direct investment framework. As a further service, the catalogue could highlight important regulatory instruments through brief annotations and include selected statistics from the Centre's World Investment Directory, in order to present a more complete picture of the investment climate of a given country. The reports would be updated on an annual basis by the Centre and disseminated widely to Governments, business organizations and transnational corporations.

III. CONCLUSION

38. In the past several years, foreign direct investment has assumed a major role in international economic relations. In addition to the fact that foreign direct investment outflows are rapidly growing, both in absolute terms and in relation to world trade and output, the activities of transnational corporations are dominating current trends that are reshaping the world economy. Those trends include a greater role for the private sector and increased liberalization of policies, increased economic integration through new communications technologies, the growth of transnational-corporation-controlled networks in which many new technologies are developed and disseminated, the globalization of industries and the regionalization of the world economy, centred on the Triad. Indeed, the current phase of world economic growth and integration is likely to be driven by the activities of transnational corporations to a greater extent than ever before, with a corresponding rise in the impact of foreign direct investment on host countries' growth and development and shifts in the foreign direct investment policy environment.

39. Despite the major role of foreign direct investment in international economic relations, there is no mechanism through which Governments may systematically provide authoritative information to other Governments and other interested parties concerning their foreign direct investment policies. In the above discussion, therefore, measures to improve transparency in the

area of foreign direct investment were outlined. If adopted, these measures would result in the establishment and dissemination to a wide audience of an authoritative catalogue of the policy statements, laws, regulations and administrative guidelines that comprise reporting countries' foreign direct investment policy frameworks.

40. While a reporting system of this type is in and of itself a desirable objective for both Governments and the private sector, it could also provide the basis for improving investment policies through policy evaluations and reviews. Such evaluations would have to take into account the long-term indirect consequences of a given policy, which are often greater than the direct short-term impacts. Hence, in order to meet national policy objectives, it would be desirable to go beyond the information contained in a catalogue of foreign direct investment policy frameworks and carry out analyses and evaluations of those frameworks. Such policy reviews could greatly amplify the efforts of countries to maximize the benefits of foreign direct investment, both inward and outward, to their economies. In the long run, as a result of more effective, informed policy-making, a strengthened policy evaluation system based on improved international transparency could lead to an increase in the amount and quality of foreign direct investment inflows.

Notes

1/ World Investment Report, 1991: The Triad in Foreign Direct Investment (United Nations publication, Sales No. E.91.II.A.12).

2/ Ibid.

3/ The figures are derived from a study of 27 developing countries by the International Finance Corporation. The study was reported in "Developing nations increase reliance on private sector", Financial Times, 11 September 1990.

4/ There are even signs that a more open environment for the movement of skilled labour is emerging. As far as unskilled labour is concerned, however, and in spite - or because - of mounting migration pressures within developing countries and between North and South and East and West, the trend appears to be towards tighter restrictions, leading to a noticeable asymmetry in the treatment of international factor flows.

5/ Manual Castells and Jeffrey Henderson, "Techno-economic restructuring, socio-political processes and spatial transformation: a global perspective", in Global Restructuring and Territorial Development, Jeffrey Henderson and Manuel Castells, eds. (Beverly Hills, California, Sage Publishers, 1987), pp. 1-17.

6/ International Institute of Communications, "Global telecommunications traffic report - 1991", cited in Network World, vol. 8, No. 39 (30 September 1991), pp. 21-22.

Notes (continued)

7/ Ibid.

8/ Eric E. Sumner, "Telecommunications technology in the 1990s", Telecommunications, vol. 25, No. 1 (January 1989), pp. 37-38.

9/ Monica Horton, "Private networks: backbone of the worldwide corporate structure", Financial Times, 7 October 1991.

10/ J. Hagedourn and J. Schakenraad, "Leading companies and the structure of strategic alliances in core technologies", MERIT research memorandum 90-001 (Maastricht, Netherlands, 1990) and Luc Soete, "National support policies for strategic industries: the international implications", in Strategic Industries in a Global Economy: Policy Issues for the 1990s (Paris, OECD, 1991), pp. 51-80.

11/ World Investment Report, 1991 ...

12/ Foreign Direct Investment and Industrial Restructuring in Mexico, ST/CTC/Ser.A/18 (United Nations publication, forthcoming).

13/ See World Investment Report, 1991 ..., pp. 41-53, for an elaboration of regional core networks.

14/ Asian Development Bank, Asian Development Outlook, 1991 (Manila, Asian Development Bank, 1991), p. 43.

15/ Factors besides government policies, such as market size and firm-specific advantages, are also very important (and may even be more important than those policies) in determining foreign direct investment flows. See "Determinants of foreign direct investment and their policy implications: report of the Secretary-General" (E/C.10/1991/7).

16/ There is a concurrent need to improve disclosure of information by transnational corporations, an issue that is being dealt with within the framework of the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR).